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FIG. 1

Sequence of human APRIL (SEQ ID NOS: 1 and 2)

```
Human G70 cDNA (SEQ ID NO 1)
Length: 1465 bp
        GCCAACCTTC CCTCCCCAA CCCTGGGGCC GCCCCAGGGT TCCTGCGCAC
        TGCCTGTTCC TCCTGGGTGT CACTGGCAGC CCTGTCCTTC CTAGAGGGAC
    51
   101
        TGGAACCTAA TTCTCCTGAG GCTGAGGGAG GGTGGAGGGT CTCAAGGCAA
        CGCTGGCCCC ACGACGAGT GCCAGGAGCA CTAACAGTAC CCTTAGCTTG
   151
   201
        CTTTCCTCCT CCCTCCTTTT TATTTTCAAG TTCCTTTTTA TTTCTCCTTG
        CGTAACAACC TTCTTCCCTT CTGCACCACT GCCCGTACCC TTACCCGCCC
   251
        CGCCACCTCC TTGCTACCCC ACTCTTGAAA CCACAGCTGT TGGCAGGGTC
   301
        CCCAGCTCAT GCCAGCCTCA TCTCCTTTCT TGCTAGCCCC CAAAGGGCCT
   351
        CCAGGCAACA TGGGGGGCCC AGTCAGAGAG CCGGCACTCT CAGTTGCCCT
   401
        CTGGTTGAGT TGGGGGGCAG CTCTGGGGGC CGTGGCTTGT GCCATGGCTC
   451
   501
        TGCTGACCCA ACAAACAGAG CTGCAGAGCC TCAGGAGAGA GGTGAGCCGG
        CTGCAGGGGA CAGGAGGCCC CTCCCAGAAT GGGGAAGGGT ATCCCTGGCA
   551
        GAGTCTCCCG GAGCAGAGTT CCGATGCCCT GGAAGCCTGG GAGAGTGGGG
   601
        AGAGATCCCG GAAAAGGAGA GCAGTGCTCA CCCAAAAACA GAAGAAGCAG
   651
   701
        CACTCTGTCC TGCACCTGGT TCCCATTAAC GCCACCTCCA AGGATGACTC
   751
        CGATGTGACA GAGGTGATGT GGCAACCAGC TCTTAGGCGT GGGAGAGGCC
        TACAGGCCCA AGGATATGGT GTCCGAATCC AGGATGCTGG AGTTTATCTG
   801
        CTGTATAGCC AGGTCCTGTT TCAAGACGTG ACTTTCACCA TGGGTCAGGT
   851
        GGTGTCTCGA GAAGGCCAAG GAAGGCAGGA GACTCTATTC CGATGTATAA
   901
   951
        GAAGTATGCC CTCCCACCG GACCGGGCCT ACAACAGCTG CTATAGCGCA
  1001
        GGTGTCTTCC ATTTACACCA AGGGGATATT CTGAGTGTCA TAATTCCCCG
 1051
        GGCAAGGGCG AAACTTAACC TCTCTCCACA TGGAACCTTC CTGGGGTTTG
        TGAAACTGTG ATTGTGTTAT AAAAAGTGGC TCCCAGCTTG GAAGACCAGG
 1101
 1151
        GTGGGTACAT ACTGGAGACA GCCAAGAGCT GAGTATATAA AGGAGAGGGA
 1201
        ATGTGCAGGA ACAGAGGCGT CTTCCTGGGT TTGGCTCCCC GTTCCTCACT
        TTTCCCTTTT CATTCCCACC CCCTAGACTT TGATTTTACG GATATCTTGC
 1251
        TTCTGTTCCC CATGGAGCTC CGAATTCTTG CGTGTGTGTA GATGAGGGGC
 1301
        GGGGGACGGG CGCCAGGCAT TGTTCAGACC TGGTCGGGGC CCACTGGAAG
 1351
 1401
        CATCCAGAAC AGCACCACCA TCTAACGGCC GCTCGAGGGA AGCACCCGGC
 1451
        GGTTTGGGCG AAGTC
```

The proposed transmembrane domains are boxed

human G70 protein sequence (SEQ ID NO 2)

- MPASSPFLLA PKGPPGNMGG PVREPALSVA LWLSWGAALG AVACAMALLT
- 51 QQTELQSLRR EVSRLQGTGG PSQNGEGYPW QSLPEQSSDA LEAWESGERS
- 101 RKRRAVLTQK QKKQHSVLHL VPINATSKDD SDVTEVMWQP ALRRGRGLQA
- 151 QGYGVRIQDA GVYLLYSQVL FQDVTFTMGQ VVSREGQGRQ ETLFRCIRSM
- 201 PSHPDRAYNS CYSAGVFHLH QGDILSVIIP RARAKLNLSP HGTFLGFV

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FIG. 2A

Sequence of mouse G70 (SEQ ID NOS: 3 and 4)

Mouse	G70 (SEQ ID	NO 3)			
1	CATGCCGAGT	GCTTTGTGTG	TGTTACCTGC	TCTAAGAAGC	TGGCTGGGCA
51	GCGTTTCACC	GCTGTGGAGG	ACCAGTATTA	CTGCGTGGAT	TGCTACAAGA
101	ACTTTGTGGC	CAAGAAGTGT	GCTGGATGCA	AGAACCCCAT	CACTGGGTTT
151	GGTAAAGGCT	CCAGTGTGGT	GGCCTATGAA	GGACAATCCT	GGCACGACTA
201	CTGCTTCCAC	TGCAAAAAAT	GCTCCGTGAA	TCTGGCCAAC	AAGCGCTTTG
251	TATTTCATAA	TGAGCAGGTG	TATTGCCCTG	ACTGTGCCAA	AAAGCTGTAA
301	CTTGACGGCT	GCCCTGTCCT	TCCTAGATAA	TGGCACCAAA	TTCTCCTGAG
351	GCTAGGGGGG	AAGGAGTGTC	AGAGTGTCAC	TAGCTCGACC	CTGGGGACAA
401	GGGGGACTAA	TAGTACCCTA	GCTTGATTTC	TTCCTATTCT	CAAGTTCCTT
451	TTTATTTCTC	CCTTGCGTAA	CCCGCTCTTC	CCTTCTGTGC	CTTTGCCTGT
501	ATTCCCACCC	TCCCTGCTAC	CTCTTGGCCA	CCTCACTTCT	GAGACCACAG
551	CTGTTGGCAG	GGTCCCTAGC	TCATGCCAGC	CTCATCTCCA	GGCCACATGG
601	GGGGCTCAGT	CAGAGAGCCA	GCCCTTTCGG	TTGCTCTTTG	GTTGAGTTGG
651	GGGGCAGTTC	TGGGGGCTGT	GACTTGTGCT	GTCGCACTAC	TGATCCAACA
701	GACAGAGCTG	CAAAGCCTAA	GGCGGGAGGT	GAGCCGGCTG	CAGCGGAGTG
751	GAGGGCCTTC	CCAGAAGCAG	GGAGAGCGCC	CATGGCAGAG	CCTCTGGGAG
801	CAGAGTCCTG	ATGTCCTGGA	AGCCTGGAAG	GATGGGGCGA	AATCTCGGAG
851	AAGGAGAGCA	GTACTCACCC	AGAAGCACAA	GAAGAAGCAC	TCAGTCCTGC
901	ATCTTGTTCC	AGTTAACATT	ACCTCCAAGG	ACTCTGACGT	GACAGAGGTG
951	ATGTGGCAAC	CAGTACTTAG	GCGTGGGAGA	GGCCTGGAGG	CCCAGGGAGA
1001	CATTGTACGA	GTCTGGGACA	CTGGAATTTA	TCTGCTCTAT	AGTCAGGTCC
1051	TGTTTCATGA	TGTGACTTTC	ACAATGGGTC	AGGTGGTATC	TCGGGAAGGA
1101	CAAGGGAGAA	GAGAAACTCT	ATTCCGATGT	ATCAGAAGTA	TGCCTTCTGA
1151	TCCTGACCGT	GCCTACAATA	GCTGCTACAG	TGCAGGTGTC	TTTCATTTAC
1201	ATCAAGGGGA	TATTATCACT	GTCAAAATTC	CACGGGCAAA	CGCAAAACTT
1251	AGCCTTTCTC	CGCATGGAAC	ATTCCTGGGG	TTTGTGAAAC	TA <u>TGA</u> TTGTT
1301	ATAAAGGGGG	TGGGGATTTC	CCATTCCAAA	AACTGGCTAG	ACAAAGGACA
1351	AGGAACGGTC	AAGAACAGCT	CTCCATGGCT	TTGCCTTGAC	TGTTGTTCCT
1401	CCCTTTGCCT	TTCCCGCTCC	CACTATCTGG	GCTTTGACTC	CATGGATATT
1451	AAAAAAGTAG	AATATTTTGT	GTTTATCTCC	CAAAAA	

J.VOSSSA 0.G. FIG. CLASS SUBCLASS DRAFTSMAR

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FIG. 2B

Length: 241 (SEQ ID NO 4) Mouse G70

> MPASSPGHMG GSVREPALSV ALWLSWGAVL GAVTCAVALL IQQTELQSLR 1

REVSRLQRSG GPSQKQGERP WQSLWEQSPD VLEAWKDGAK SRRRRAVLTQ 51

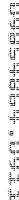
101 KHKKKHSVLH LVPVNITSKD SDVTEVMWQP VLRRGRGLEA QGDIVRVWDT

GIYLLYSQVL FHDVTFTMGQ VVSREGQGRR ETLFRCIRSM PSDPDRAYNS 151

CYSAGVFHLH QGDIITVKIP RANAKLSLSP HGTFLGFVKL * 201

G-70 FLAG des92 (smuG70) Strain #4081 (SEQ ID NO 19):

MDYKDDDDKKHKKKHSVLHLVPVNITSKDSDVTEVMWQPVLRRGRGLEAQGDIVRVWDTGIY LLYSQVLFHDVTFTMGQVVSREGQGRRETLFRCIRSMPSDPDRAYNSCYSAGVFHLHQGDII TVKIPRANAKLSLSPHGTFLGFVKL*



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170

180

230

240

51

09

111

120

PWOSL EQS D LEAW+ G +SR+RRAVLTQK KK+HSVLHL

EVSRLQ +GGPSQ

EVSRLQGTGGPSQNGEGYPWQSLPEQSSDALEAWESGERSRKRRAVLTQKQKKQHSVLHL 61 human:

VPVNITSKD-SDVTEVMWQPVLRRGRGLEAQGDIVRVWDTGIYLLYSQVLFHDVTFTMGQ

VP+N TSKD SDVTEVMWQP LRRGRGL+AQG VR+ D G+YLLYSQVLF DVTFTMGQ mouse:

VPINATSKDDSDVTEVMWQPALRRGRGLQAQGYGVRIQDAGVYLLYSQVLFQDVTFTMGQ 121 human:

VVSREGQGRRETLFRCIRSMPSDPDRAYNSCYSAGVFHLHQGDIITVKIPRANAKLSLSP 171

/VSREGOGR+ETLFRCIRSMPS PDRAYNSCYSAGVFHLHOGDI++V IPRA AKL+LSP

VVSREGQGRQETLFRCIRSMPSHPDRAYNSCYSAGVFHLHQGDILSVIIPRARAKLNLSP 181 human:

240 HGTFLGFVKL 231

HGTFLGFVKL

6. 9 11

Alignm. of human and mouse G70

PGHMGGSVREPALSVALWLSWGAVLGAVTCAVALL I QQTELQSLRR

MPASS-

 \leftarrow

mouse:

human:

mouse:

PG+MGG VREPALSVALWLSWGA LGAV CA+ALL OQTELOSLRR

MPASSPFILAPKGPPGNMGGP|VREPALSVALWLSWGAALGAVACAMALL|TQQTELQSLRR MPASS

 \leftarrow

EVSRLQRSGGPSQKQGERPWQSLWEQSPDVLEAWKDGAKSRRRRAVLTQKHKKKHSVLHL 52

112

mouse:

mouse:

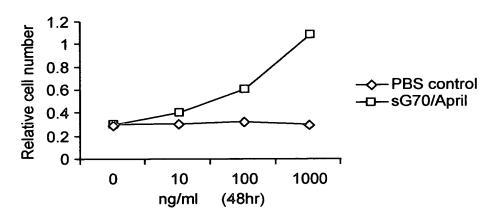
250 HGTFLGFVKL 241

human:

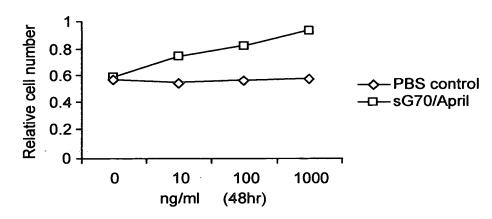
 ולה וליינו להול לה להיין להיי להיי להיין און "ער" הבול לביו להיי להיין להיין איני לביו לביו לביו להיין איני לב הולה להיים להיים להיין להיין להיין להיין איניה אינים להיים להיים להיים להיים להיים להיים להיים להיים להיים להי SERIAL NO.: 09/854,864 INVENTORS: Theill, et al. Page 5 of 49

FIG. 4A

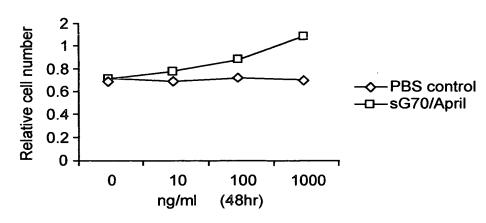
Effect of sG70/April on Raji cell proliferation



Effect of sG70/April on Jurkat cell proliferation



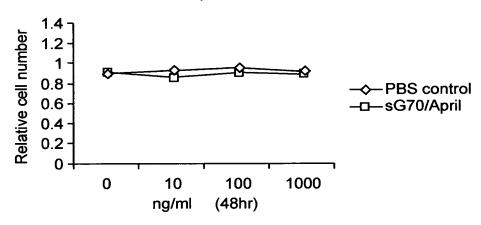
Effect of sG70/April on K562 cell proliferation



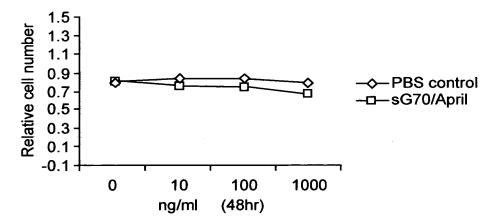
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FIG. 4B

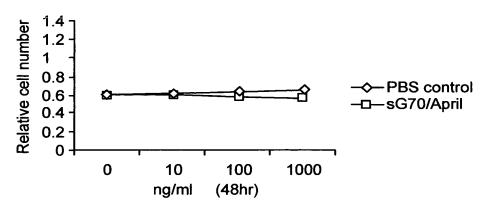
Effect of sG70/April on U937 cell proliferation

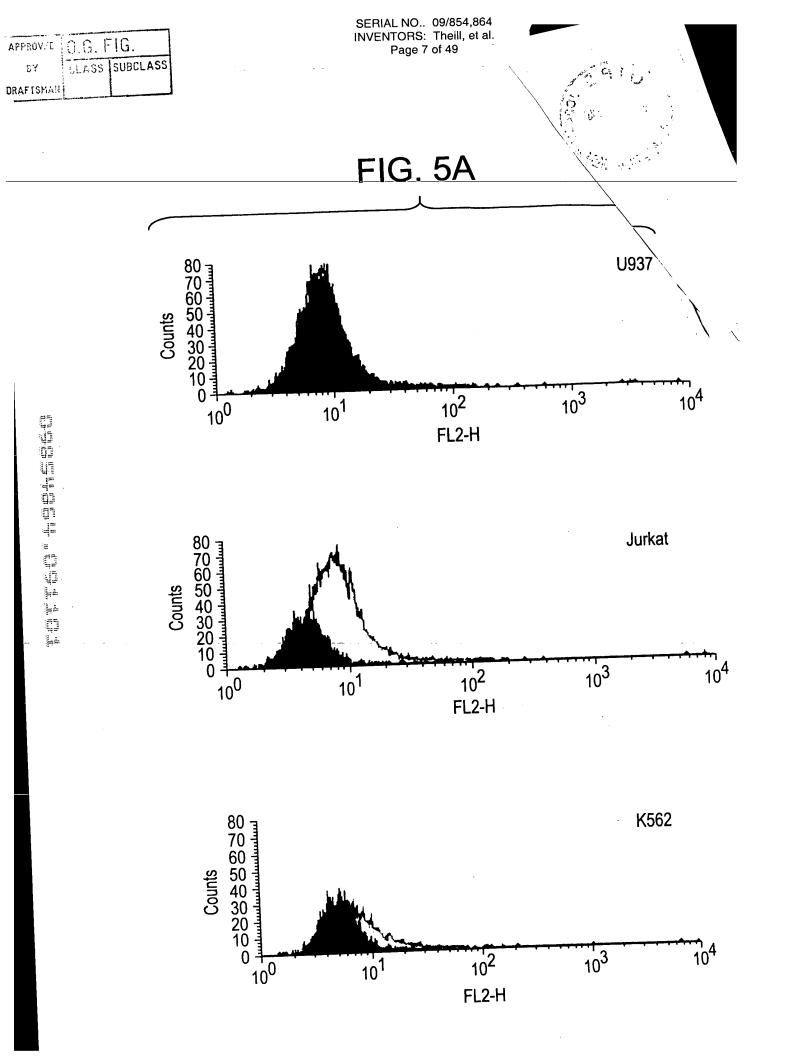


Effect of sG70/April on 293 T cell proliferation



Effect of sG70/April on 3T3 cell proliferation





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FIG. 5B-1

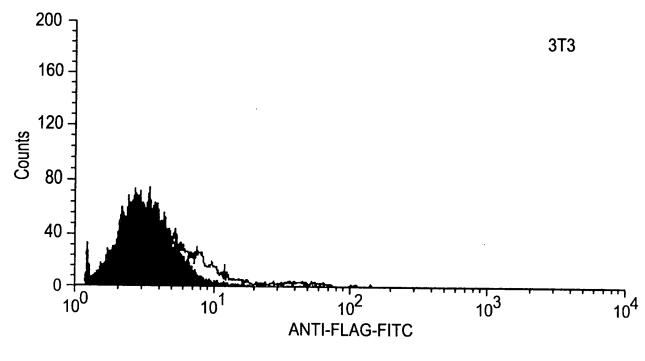
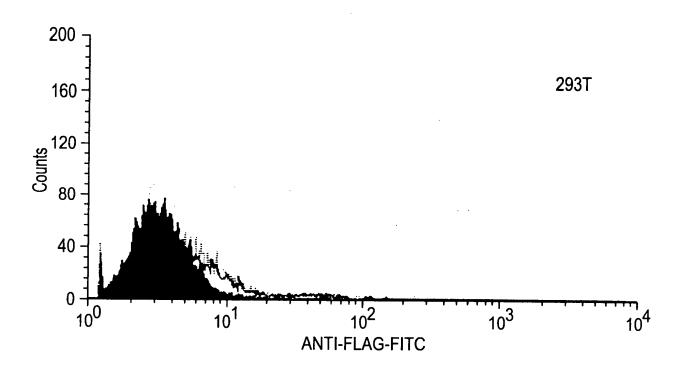
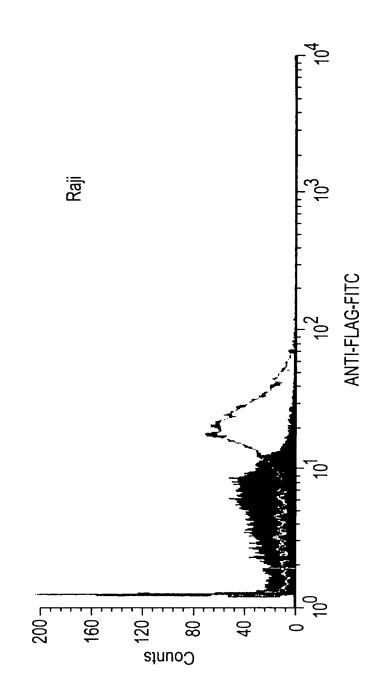


FIG. 5B-2



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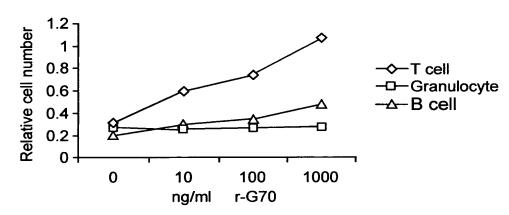
FIG. 5B-3



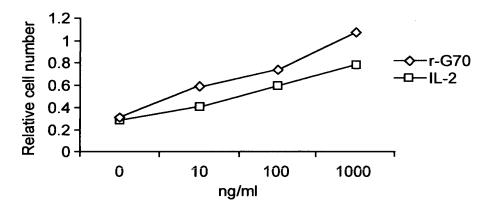
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FIG. 6

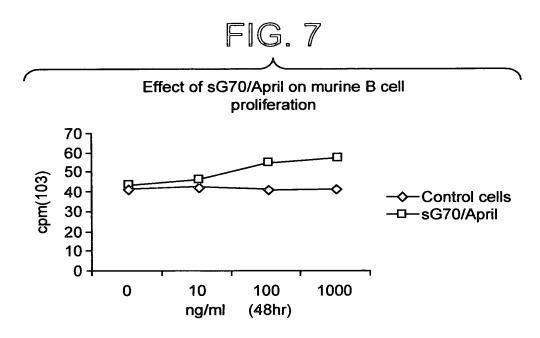
The effect of r-G70/April on human peripheral blood B cell, T cell and Granucolyte



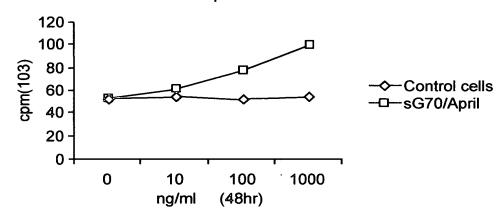
The effect of IL-2 and G70/April on human peripheral T cell proliferation

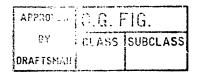


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Effect of sG70/April on murine T cell proliferation

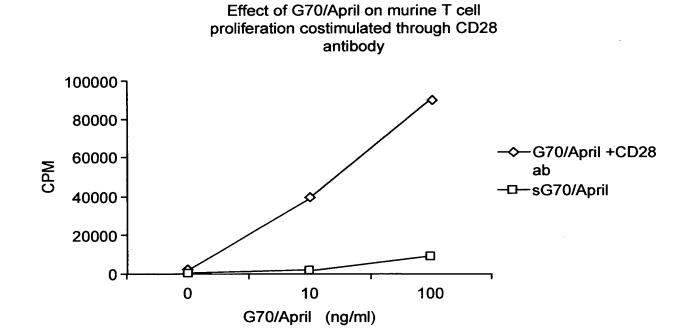




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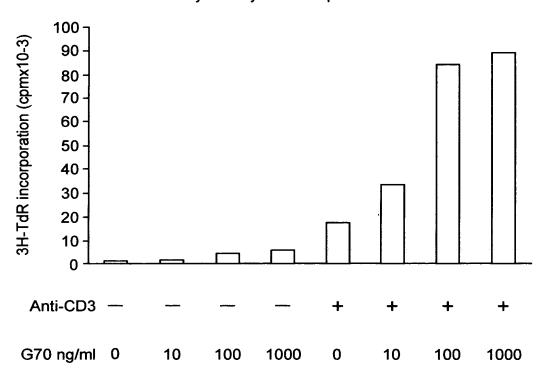
FIG. 8



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FIG. 9

Co-stimulatory activity of G70/April on mouse T cells



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FIG. 10A

Human BCMA

Human (SEQ ID NO: 5):

1 MAGQCSQNEY FDSLLHACIP CQLRCSSNTP PLTCQRYCNA SVTNSVKGTN

51 AILWTCLGLS LIISLAVFVL MFLLRKISSE PLKDEFKNTG SGLLGMANID

101 LEKSRTGDEI ILPRGLEYTV EECTCEDCIK SKPKVDSDHC FPLPAMEEGA

151 TILVTTKTND YCKSLPAALS ATEIEKSISA R

Human (SEQ ID NO: 5):

MAGQCSQ NEYFDSLLHA CIPCQLRCSS NTPPLTCQRY CNASVTNSVK

GTNA ILWTCL GLSLIISLAV FVLMFLLRKI SSEPLKDEFK NTGSGLLGMA

NIDLEKSRTG DEIILPRGLE YTVEECTCED CIKSKPKVDS DHCFPLPAME

EGATILVTTK TNDYCKSLPA ALSATEIEKS ISAR

hBCMA's extracellular domain (SEQ ID NO: 6):

MAGQCSQ NEYFDSLLHA CIPCQLRCSS NTPPLTCQRY CNASVTNSVK
GTNA

hBCMA's cysteine-rich consensus region (SEQ ID NO: 7):
CSQ NEYFDSLLHA CIPCQLRCSS NTPPLTCQRY C

hBCMA's transmembrane region (SEQ ID NO: 8): ILWTCL GLSLIISLAV FVLMF



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FIG. 10B

huBCMA-Fc (SEQ ID NO: 9):

MAGQCSQNEYFDSLLHACIPCQLRCSSNTPPLTCQRYCNASVTNSVKGTNAGGG GGDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVK FNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKAL PAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNG QPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKS LSLSPGK*

muBCMA-Fc (SEQ ID NO: 10):

MAQQCFHSEYFDSLLHACKPCHLRCSNPPATCQPYCDPSVTSSVKGSYTGGGGG DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFN WYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPA PIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQP ENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLS LSPGK*

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FIG. 11

Alignment of human BCMA amino acid sequence and murine BCMA amino acid sequence

murine BCMA amino acid sequence Length: 185 (SEQ ID NO: 11):

MAQQCFHSEY FDSLLHACKP CHLRCSNPPA TCQPYCDPSV TSSVKGTYTV

LWIFLGLTLV LSLALFTISF LLRKMNPEAL KDEPQSPGQL DGSAQLDKAD

51

TELTRIRAGD DRIFPRSLEY TVEECTCEDC VKSKPKGDSD HFFPLPAMEE

101

GATILVITKI GDYGKSSVPI ALQSVMGMEK PIHIR 151 alignment of human BCMA amino acid sequence and murine BCMA amino acid sequence.

63 MAGQ**CSQNEYFDSLLHACIPCQLRCSSNTPPLTCQRYC**NASVTNSVKGTNAILWTCLGLS Query:

28 MAQQ**CFHSEYFDSLLHAC**KPCHLRCSN--**PPATCQPYC**DPSVTSSVKGTYTVLWIFLGLT MA QC +EYFDSLLHAC PC LRCS+ PP TCQ YC+ SVT+SVKGT +LW LGL+ Н Sbjct: LIISLAVFVLMFLLRKISSEPLKDEFKNTG----SGLLGMANIDLEKSRTGDEIILPRGL 119 A+ +L + R GD+ I PR L L++SLA+F + FLLRK++ E LKDE ++ G 64 Query:

118 LVLSLALFTISFLLRKMNPEALKDEPQSPGQLDGSAQLDKADTELTRIRAGDDRIFPRSL 59 Sbjct: 177 EYTVEECTCEDCIKSKPKVDSDHCFPLPAMEEGATILVTTKTNDYCKS-LPAAL-SATEI 120 Query: EYTVEECTCEDCVKSKPKGDSDHFFPLPAMEEGATILVTTKTGDYGKSSVPTALQSVMGM 178 119 Sbjct:

EYTVEECTCEDC+KSKPK DSDH FPLPAMEEGATILVTTKT DY KS +P AL

EKSISAR 184 178 Query:

EKPTHTR 185 179 Sbjct:



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FIG. 12A

Human TACI

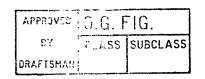
huTACI (SEQ ID NO: 14).

- 1 MSGLGRSRRG GRSRVDQEER FPQGLWTGVA MRSCPEEQYW DPLLGTCMSC
 - 51 KTICNHQSQR TCAAFCRSLS CRKEQGKFYD HLLRDCISCA SICGQHPKQC
 - 101 AYFCENKLRS PVNLPPELRR QRSGEVENNS DNSGRYQGLE HRGSEASPAL
 - 151 PGLKLSADQV ALVYSTLGLC LCAVLCCFLV AVACFLKKRG DPCSCQPRSR
 - 201 PRQSPAKSSQ DHAMEAGSPV STSPEPVETC SFCFPECRAP TQESAVTPGT
 - 251 PDPTCAGRWG CHTRTTVLQP CPHIPDSGLG IVCVPAQEGG PGA

MSGLGRSRRGGRSRVDQEERFPQGLWTGVAMRSCPEEQYWDPLLGTCMSC KTICNHQSQRTCAAFCRSLSCRKEQGKFYDHLLRDCISCASICGQHPKQC AYFCENKLRSPVNLPPELRRQRSGEVENNSDNSGRYQGLEHRGSEASPAL PGLKLSADQVALVYSTLGLCLCAVLCCFLVAVACFLKKRGDPCSCQPRSR PRQSPAKSSQDHAMEAGSPVSTSPEPVETCSFCFPECRAPTQESAVTPGT PDPTCAGRWGCHTRTTVLQPCPHIPDSGLGIVCVPAQEGGPGA

huTACI's extracellular domain (SEQ ID NO: 15):

- 1 MSGLGRSRRG GRSRVDQEER FPQGLWTGVA MRSCPEEQYW DPLLGTCMSC
 - 51 KTICNHQSQR TCAAFCRSLS CRKEQGKFYD HLLRDCISCA SICGQHPKQC
 - 101 AYFCENKLRS PVNLPPELRR QRSGEVENNS DNSGRYQGLE HRGSEASPAL
 - 151 PGLKLSADQV ALVYST



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FIG. 12B

huTACI's cysteine-rich consensus region (SEQ ID NO: 16): CPEEQYWDPLLGTCMSCKTICNHQSQRTCAAFC and CRKEQGKFYDHLLRDCISCASICGQHPKQCAYFC

transmembrane region (SEQ ID NO: 17): LGLCLCAVLCCFLVAVACFL

hTACI-Fc (SEQ ID NO: 18):

- 1 MSGLGRSRRG GRSRVDQEER FPQGLWTGVA MRSCPEEQYW DPLLGTCMSC
- 51 KTICNHQSQR TCAAFCRSLS CRKEQGKFYD HLLRDCISCA SICGQHPKQC
- 101 AYFCENKLRS PVNLPPELRR QRSGEVENNS DNSGRYQGLE HRGSEASPAL
- 151 PGLKLSADOV ALVYSGGGGG DKTHTCPPCP APELLGGPSV FLFPPKPKDT
- 201 LMISRTPEVT CVVVDVSHED PEVKFNWYVD GVEVHNAKTK PREEQYNSTY
- 251 RVVSVLTVLH QDWLNGKEYK CKVSNKALPA PIEKTISKAK GQPREPQVYT
- 301 LPPSRDELTK NQVSLTCLVK GFYPSDIAVE WESNGQPENN YKTTPPVLDS
- 351 DGSFFLYSKL TVDKSRWQQG NVFSCSVMHE ALHNHYTQKS LSLSPGK*

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FIG. 13

Alignment of cysteine rich extracellular regions of human TACI and human BCMA.

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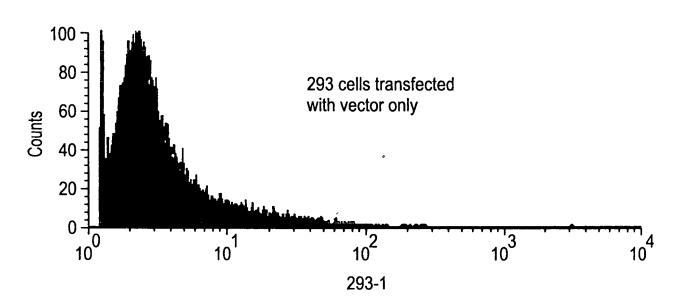
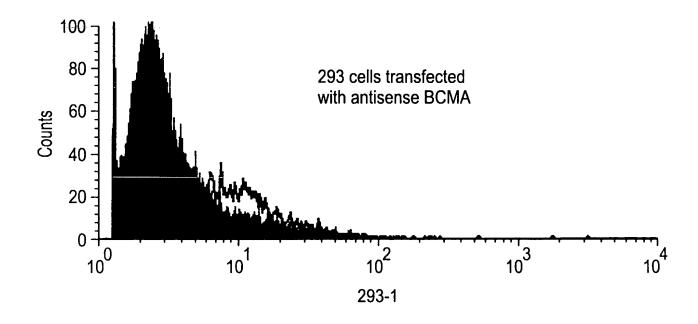
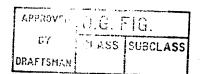


FIG. 14B





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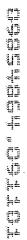
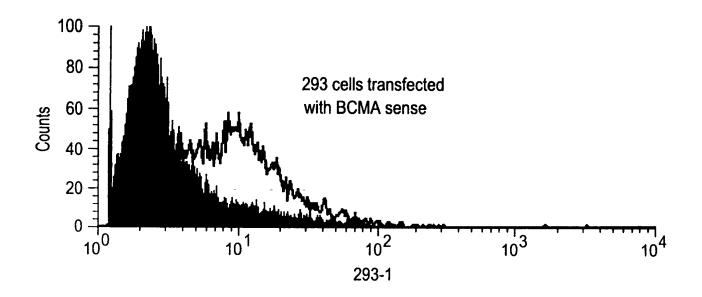


FIG. 14C



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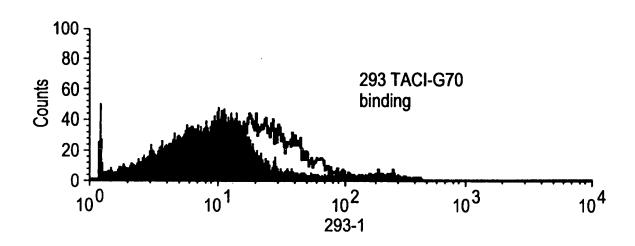
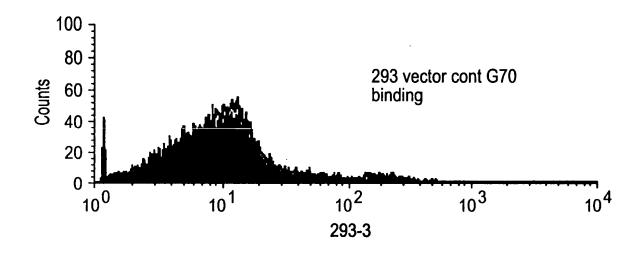
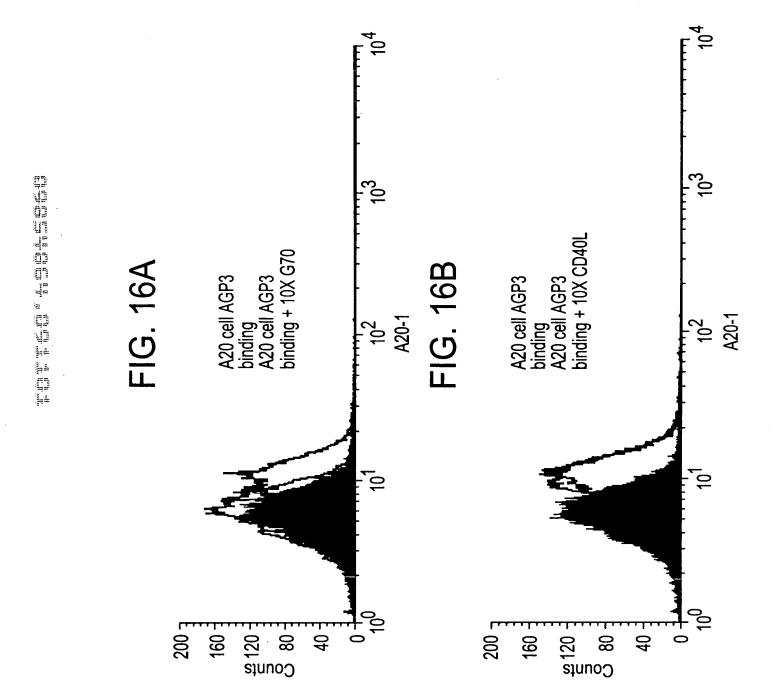
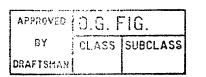


FIG. 15B

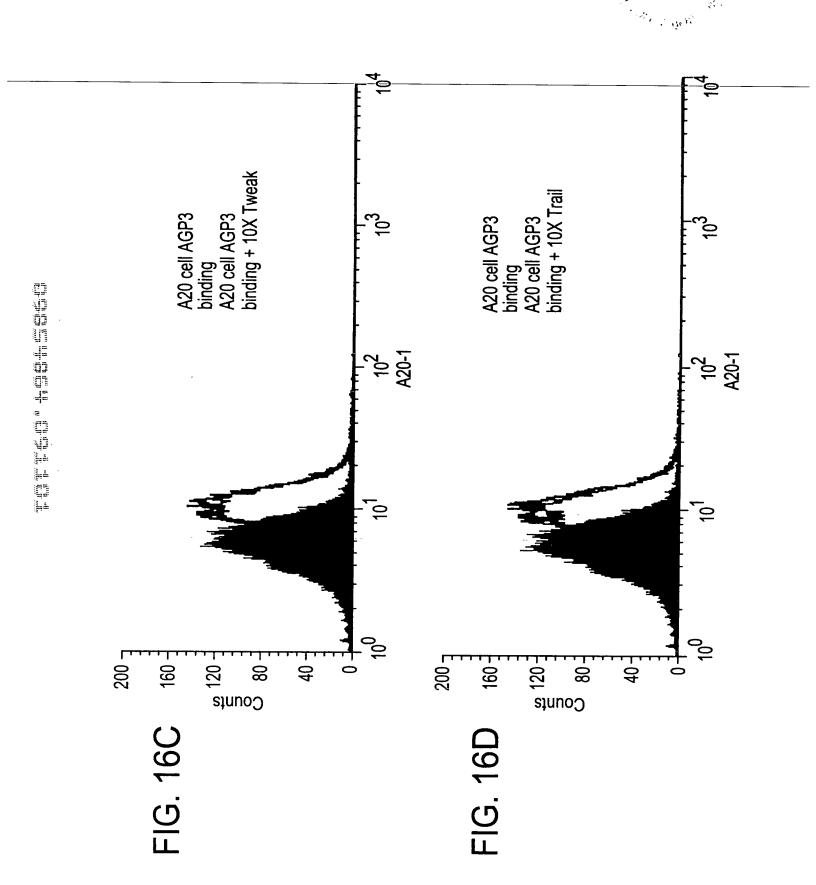


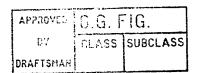
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FIG. 17A

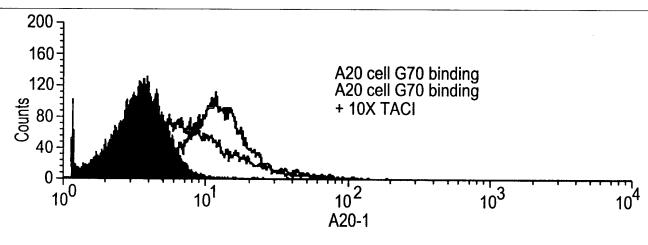


FIG. 17B

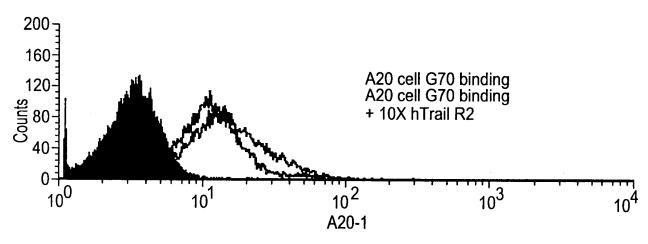
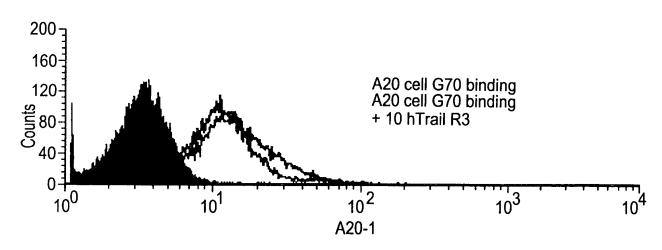
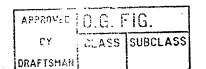


FIG. 17C

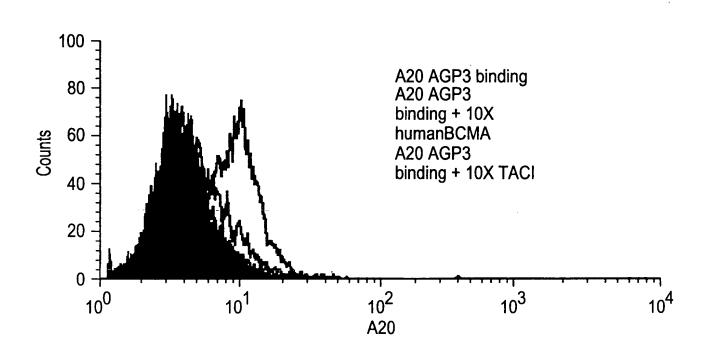




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FIG. 18



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FIG. 19A

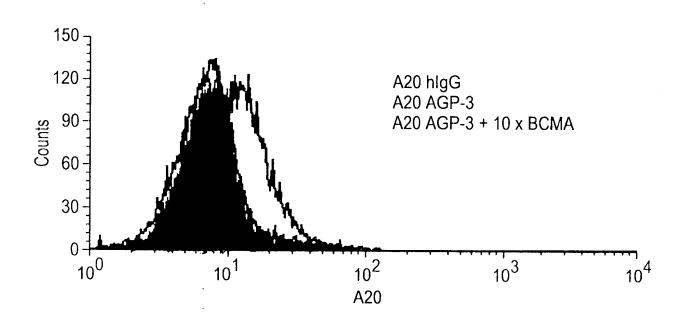
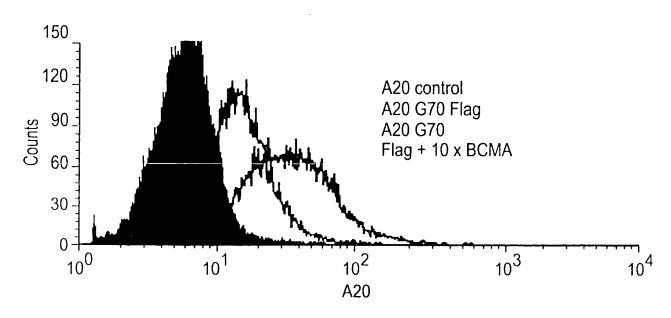
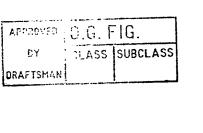


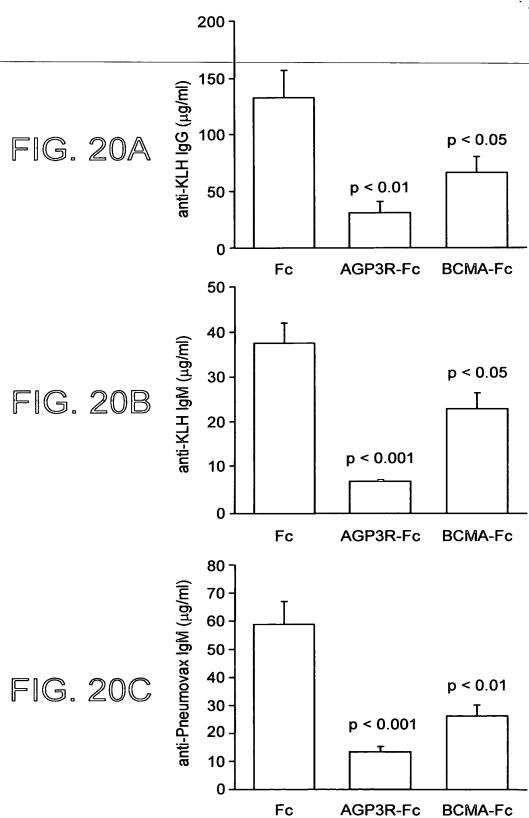
FIG. 19B





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J.G. FIG. APPROVED CLASS SUBCLASS DRAFTSMAH

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FIG. 21

Fc-humanAPRIL

Fc-humanAPRIL protein sequence including the signal sequence, Fc domain, linker (Xhol site) and APRIL:

LSVTTGVHSD KTHTCPPCPA PELLGGPSVF MEWSWVFLFF LFPPKPKDTL

EVKFNWYVDG VEVHNAKTKP VVVDVSHEDP MISRIPEVIC

DWLNGKEYKC KVSNKALPAP IEKTISKAKG VVSVLTVLHQ REQYNSTYR 51

DPREPQVYTL 101

ESNGQPENNY QVSLTCLVKG FYPSDIAVEW PPSRDELTKN KTTPPVLDSD 151

GSFFLYSKLT VDKSRWQQGN VFSCSVMHEA LHNHYTQKSL SLSPGK SRAV 201

LTQKQKKQHS VLHLVPINAT SKDDSDVTEV MWQPALRRGR 251

SLQAQGYGVR

SQVLFQDVTF IMGQVVSREG QGRQETLFRC QDAGVYLLY 301

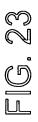
RSMPSHPDR

AYNSCYSAGV FHLHQGDILS VIIPRARAKL NLSPHGTFLG 351

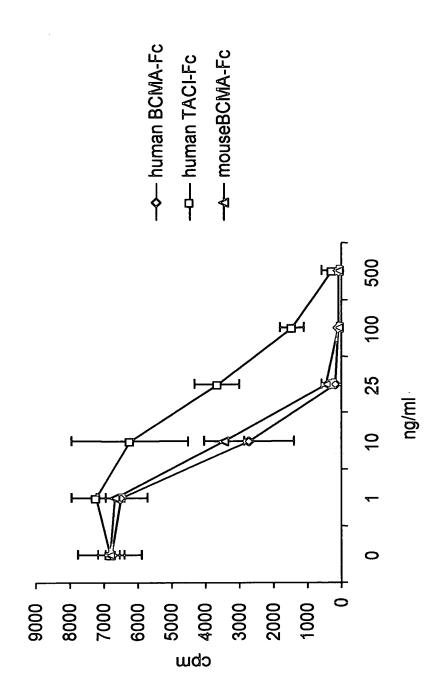


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hBCMA-Fc and wt hTACI-Fc inhibits Flag-mAPRIL mediated mouse B cell proliferation



APPROVER G.G. FIG.

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FIG. 24

hBCMA-Fc reduces PB B cell level in vivo

CD3-B220+	#
CD3+	#
#Lym	10e6/ml
WBC	10e6/ml
BI OOD	

MA-FC SD t test	5.30 0.39 0.03318	3.81 0.43 0.01570	2.3 0.32 0.24737	1.3 0.27 0.00506
S D O	8.02	6.43	2.7	3.2
Saline	6.90	5.55	2.1	2.9

APRIONED D.C. FIG.

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FIG. 25

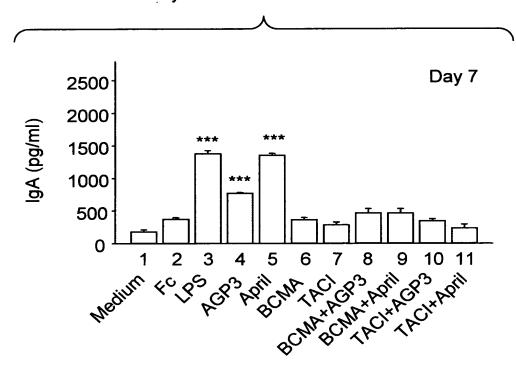
hBCMA-Fc reduces spleen B cell levels in vivo

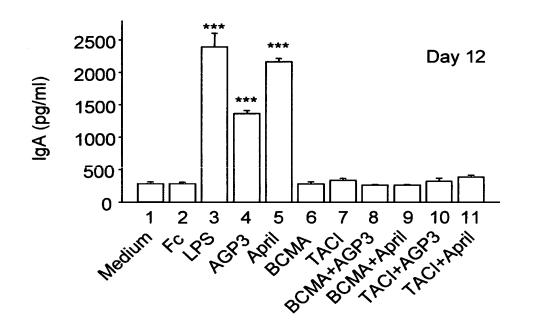
ı			
CD3-B220+ #	41.8 4.92 0.02088	57.1 9.67	48.5 29.15
CD3-B220+ (%)	45.5 1.29 0.00234	50.6 1.95	53.7 6.7
spleen lym# 10ml(x10e6)	89.3 9.32 0.02668	112.5 15.65	113.1
Lym (%)	97.9 0.51 0.89118	97.9 0.38	98.5 0.1
WBC 10e6/ml	9.12 0.92 0.02778	11.49 1.62	11.48
Spleen	:MA-Fc SD t test	So	Saline

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FIG. 26

Flag-mAPRIL and hAGP3-mediated-lgA-production inhibited by hBCMA-Fc and hTACI-Fc in vitro

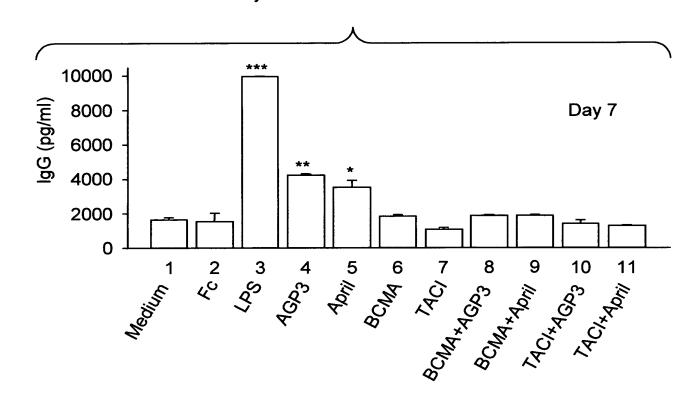


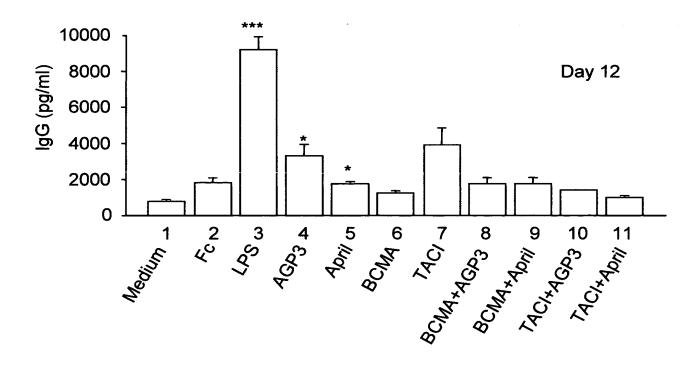


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FIG. 27

Flag-mAPRIL and hAGP3 Mediated IgG Production Inhibited by BCMA-Fc and TACI-Fc in Vitro





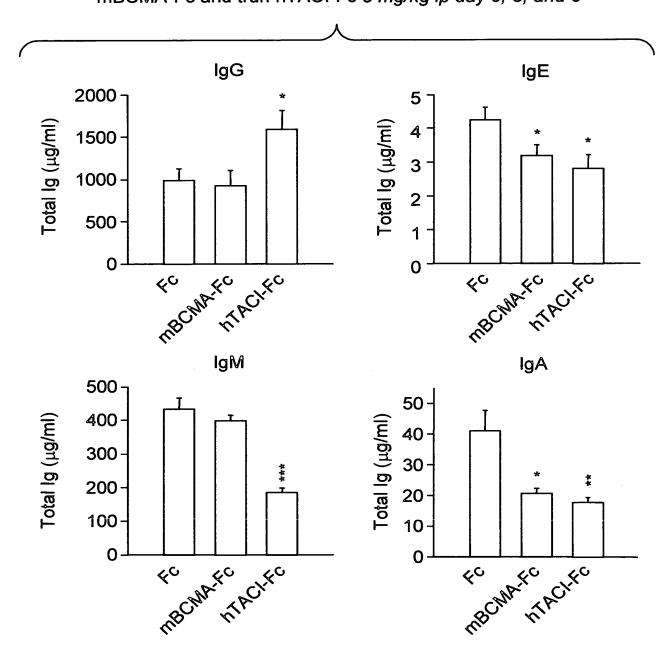


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FIG. 28
Significantly reduces total IgE and IgA in normal mice treated with mBCMA-Fc and trun hTACI-Fc 5 mg/kg ip day 0, 3, and 6



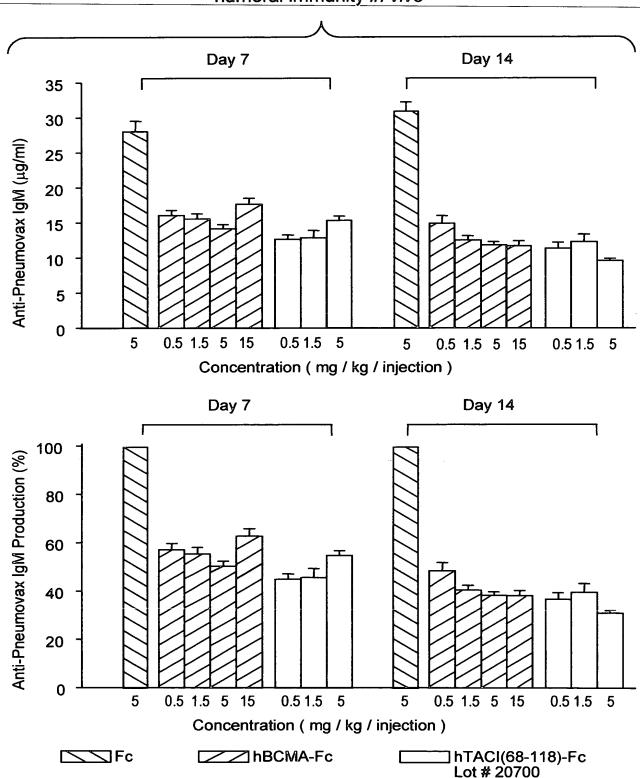


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FIG. 29

BCMA-Fc and truncated TACI-Fc at daily doses of 0.5 mg/kg inhibits humoral immunity in vivo

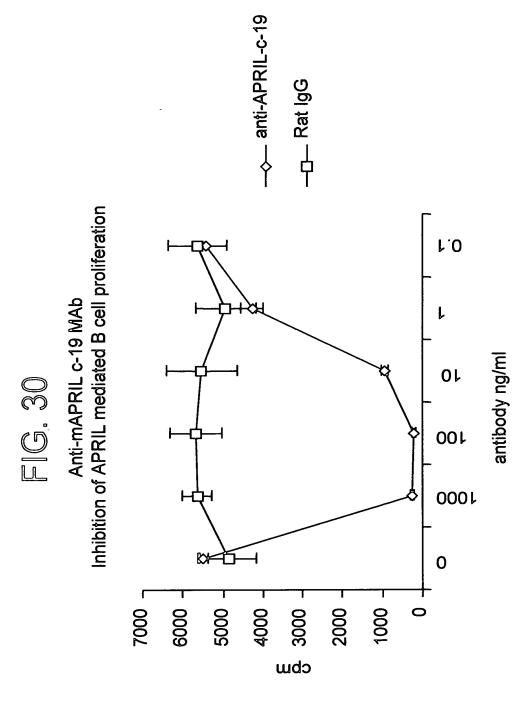




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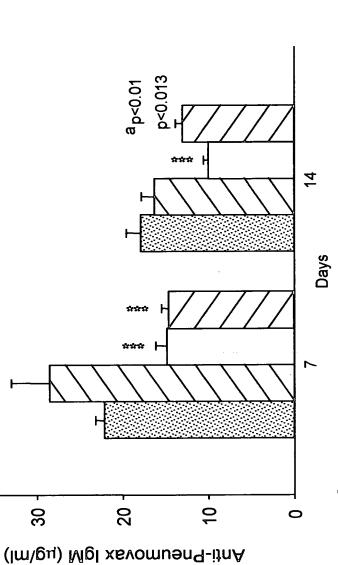


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Neutralizing anti-mAPRIL Mab Reduces anti-Pheumovacs IgM In Vivo 5 mg/kg ip on day 0, 3, and 6 FIG. 31





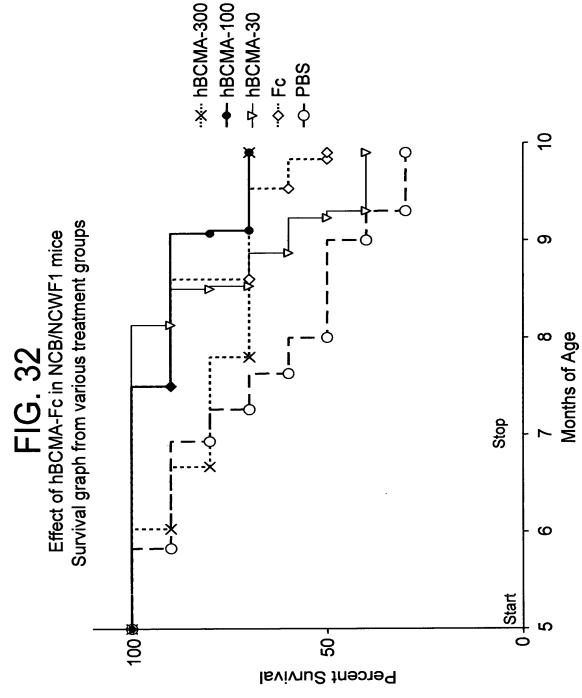
^a difference between Anti-April Ab and anti-AGP3 Pb Peak 2+ Anti-April Ab Groups

APPROVED [O.G. FIG.

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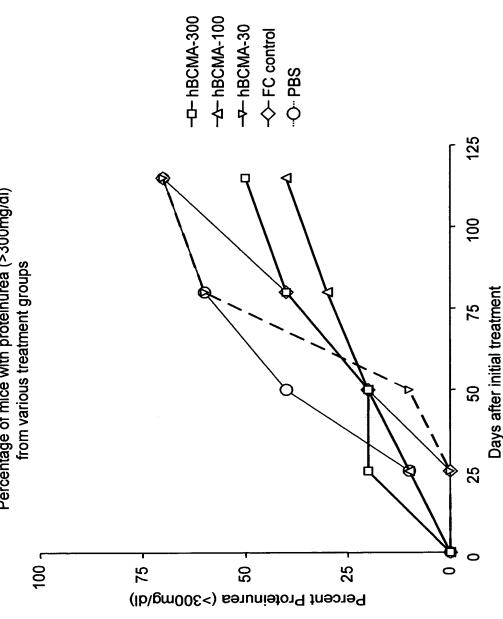
N=10 Mice were treated for 8 weeks 3x/week with the indicated proteins. KIN2 group had 12 mice. The 100 in the legend stands for 100 µg of protein or 4mg/kg i.p.

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FIG. 33

Effect of hBCMA-Fc in NCB/NCWF1 mice

Percentage of mice with proteinurea (>300mg/dl)



N=10 Five month old BWF1 mice were treated with protein for 8 weeks i.p. The hBCMA-300 stands for hBCMA-fc 300 μg/mouse (12mg/kg)

APPROVED O.G. FIG.

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FIG. 34

Analysis of antibodies to dsDNA from the peripheral blood from various treatment groups of BWF1 at day 0,30,60, and 90.

		MEAN a	MEAN anti-dsDNA isotypes in U/ml	A isotype	s in U/ml				
			Day 30		Day 60		Day 90		
Group #	lgG	IgM	lgG	IgM	lgG	lgM	lgG	IgM	
hBCMA-300	179	099	163	371	150	902	121	841	
hBCMA-100	150	430	528	718	171	822	688	1031	
hBCMA-30	377	265	267	458	401	664	424	601	
	149	371	234	283	384	331	432	351	
PBS	308	767	439	311	247	576	720	467	

		IgM	734	1225	400	237	327
	Day 90	lgG	62	371	421	233	870
ns		IgM	518	85/	909	121	370
ove mea	Day 60	lgG	62	212	302	391	247
of the ab		IgM	211	197	430	63	152
Standard Deviation of the above means	Day 30	lgG	116	306	281	150	474
andard D		IgM	303	797	455	160	73
S	Day 0	<u>l</u> gG	104	109	363	89	311
		Group #	hBCMA-300	hBCMA-100	hBCMA-30	FC.	PBS

APPROVED C.C. FIG.

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FIG. 35

the12mg/kg (30 ug), 4mg/kg (100ug), and 1.3mg/kg (300 ug) dose of hBCMA-Fc groups along with the Fc and PBS control groups. Evaluation of B cell numbers at treatment day 60 from

		=		Soupo a		וופוכומוו		groups along with the Leana I be continued groups.	٠.		
hBCMA-fc-300	-300			hBCMA-100	00			hBCMA-FC-30	-30		
Wouse#	%CD4	%CD8	%B220		%CD4	%CD8	%B220		%CD4	%CD8	%B220
1.0	16.3	11.0	16.4	5.0	26.1	14.9	10.1	0.6	2.5	6.9	10.3
2.0	24.1	11.1	11.6	0.0	21.1	11.3	10.6	10.0	13.2	5.2	23.4
3.0	18.2	7.4	6.6	7.0	24.6	13.3	8.3	11.0	15.9	6.4	29.2
4.0	25.4	13.3	13.1	8.0	20.0	11.3	13.4	12.0	14.8	9.7	31.5
×	21.0	10.7	12.8	×	23.0	12.7	10.6	×	11.6	6.5	23.6
bs	4.4	2.4	2.8	ps	2.9	1.7	2.1	ps	6.2	1.0	9.5
<u>Б</u>				PBS							
33.0	7.0	8.1	25.4	37.0	16.9	8.3	15.5				
34.0	10.7	4.9	15.3	38.0	19.1	12.1	19.5				
35.0	18.9	9.3	21.0	39.0	7.1	3.4	17.5				
36.0	20.1	11.1	21.0	40.0	19.9	11.4	26.5				
×	14.2	8.4	20.7	×	15.8	8.8	19.8				- 1 - 1 - 1 - 1
ps	6.4	2.6	4.	pg	ى ق.	4.0	4.8		÷		
								,		_	

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FIG. 36

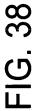
Specific APRIL binding to Human Cell lines determined by FACS analysis

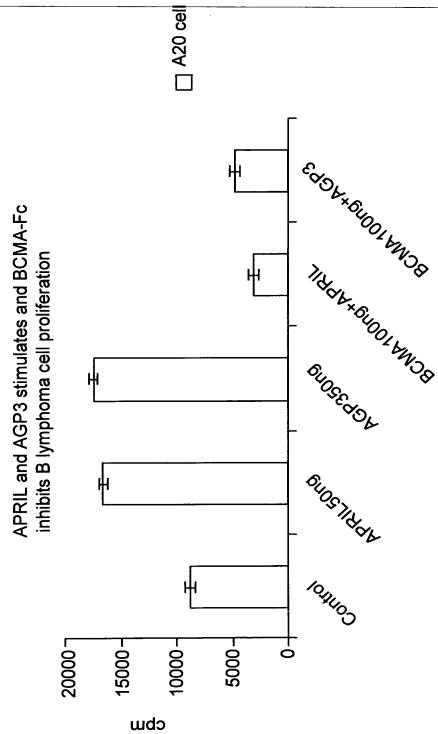
APRIL binding

+	+	+	+	+	+	+	i	i	i
HT 29 Colon adenocarcinoma	NCI 460 Lung carcinoma	PC3 Prostate adenocarcinoma	C6 Glial carcinoma	Raji Burkitt lymphoma	A20 Mouse B cell lymphoma	U266Bl Myeloma	A435 Epidermoid carcinoma	A469 Kidney carcinoma	MDA-231 breast adenocarcinoma

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9

TUMOR VOLUME (mm^3)

800

1000

1200

94

200